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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,637

09/07/2006

Peter-Andre Redert

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10/05/2009

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

CHANG, JON CARLTON

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,637	Applicant(s) REDERT, PETER-ANDRE	
	Examiner JON CHANG	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/7/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

2. The disclosure is objected to because of the following informalities: the specification refers to an attorney docket number on page 3, lines 1-2

Appropriate correction is required.

Claim Objections

3. Claims 1-5, 7-10 and 12 are objected to because of the following informalities:
4. In claim 1, in the last line, "the" should be inserted between "on" and "basis". A similar change should be made for claims 2, 3, 4, 5, 7, 8, 9, 10 and 12.
5. Appropriate correction is required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-9 and 12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
8. Claims 1-9 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. The Federal Circuit¹, relying upon Supreme Court precedent², has indicated that a statutory "process" under 35 U.S.C. 101 must (1) be tied to a particular machine or apparatus, or (2) transform a particular article to a different state or thing. This is referred to as the "machine or transformation test", whereby the recitation of a particular machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility (See *Benson*,

¹ *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

² *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

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409 U.S. at 71-72), and the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity (See *Flook*, 437 U.S. at 590"). While the instant claims recite a series of steps or acts to be performed, the claims neither transform an article nor are positively tied to a particular machine that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. In order for a process to be "tied" to another statutory category, the structure of another statutory category should be positively recited in a step or steps significant to the basic inventive concept, and NOT just in association with statements of intended use or purpose, insignificant pre or post solution activity, or implicitly. Consider claim 1. The claim is not tied to a particular machine because the structure of another statutory category is not positively recited in a step significant to the basic inventive concept, and the steps of the claim could reasonably be construed as being performed manually. The claim also does not satisfy either of the two aspects of the transformation test:

1) It does not transform a particular article to a different state or thing; no physical transformation is claimed.

2) It does not satisfactorily transform data because:

a) the data (i.e., the image) is not required to represent a real world/physical object;

b) there is no external, non-data representation of the physical object represented by the modified data (i.e., the depth map).

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9. The dependent claims do not add anything which would cause the claims to become statutory. In order to obviate this rejection, the Examiner suggests either one of the following options:

1) include language in the claim which requires meaningful and significant steps (such as the determining, computing and assigning steps) be performed by a particular machine (i.e., not a generic “machine” or “device”); or,

2) require that the image represent a real world/physical object, and include an additional step which requires depiction of a non-data representation (this could be a visual depiction) of the resulting data (e.g., the depth map).

10. Any language added to the claims must find support in the original disclosure, in order to avoid a rejection under 35 U.S.C. 112, 1st paragraph (new matter).

11. Claim 12 is drawn to a computer program product. It is apparent from the language of the claim as well as the description given in the specification (e.g., page 9, lines 26-27) that what is being claimed is a computer program. The language in the preamble, “to be loaded by a computer arrangement...the computer arrangement comprising processing means and a memory” is considered an intended use limitation. Further, the computer program itself does not comprise the computer arrangement. Therefore, the language does not cause the claim to fall into one of the statutory categories of invention. Computer programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a

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computer which permit the computer program's functionality to be realized. Therefore the claim is not directed to statutory subject matter.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication 20030091225 to Chen (hereinafter referred to as "Chen").

14. Regarding claim 11, Chen discloses an image processing apparatus (Fig.12) comprising:

receiving means for receiving a signal corresponding to an image (Fig.1; paragraph [0037]); and

a depth map generating unit for generating a depth map (Fig.12; paragraphs [0040] and [0067]).

15. Although claim 11 refers to claim 1, the limitations of claim 1 are not given patentable weight in regards to claim 11 because claim 11 refers to claim 1 using the language, "for generating a depth map as claimed in Claim 1." This is merely a statement of intended use, and does not require that the process of claim 1 be performed.

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16. Regarding claim 12, Chen discloses a computer program product (paragraph [0034]) to be loaded by a computer arrangement comprising instructions to generate a depth map comprising depth values representing distances to a viewer for respective pixels of an image (abstract; paragraphs [0040] and [0067]), the computer arrangement comprising processing means and a memory (paragraph [0033]).

17. Chen also discloses the computer program product, after being loaded, providing said processing means with the capability to carry out:

determining a contour on basis of pixel values of the image, the contour comprising a collection of adjacent points;

computing curvature vectors at a number of the points; and

assigning a first one of the depth values corresponding to the first one of the pixels on basis of the curvature vectors.

18. The above steps, although not specifically disclosed by Chen, are met by the reference because the claim only requires "capability." Since Chen's system is a programmable computer system, it has the capability to be programmed to perform the steps.

Allowable Subject Matter

19. Claim 10 is allowed. The prior art of record does not disclose or suggest assigning a first one of the depth values corresponding to the first one of the pixels on the basis of the curvature vectors.

Subject Matter Not Found in the Prior Art

20. The subject matter of claim 1 was not found in the prior art. Allowability is not indicated in view of the rejection under 35 U.S.C. 101.

Citation of Pertinent Prior Art

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Narasimhamurthi et al., "Shape Determination from Intensity Images - A New Algorithm", teaches determining surface shape from intensity measurements. The references teaches estimating surface normals at points on the surface, as well as depth. It also teaches measurement of curvature.

Vaillant et al., "Using Occluding Contours for Recovering Shape Properties of Objects", teaches detecting contours and reconstructing a depth map along them. Curvature is calculated, but the reference does not teach that the depth is assigned on the basis of curvature vector as specifically claimed.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JON CHANG whose telephone number is (571)272-7417. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571)272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jon Chang
Primary Examiner
Art Unit 2624

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